

MICROCOPY RESOLUTION TEST CHART

DR 1215 December 1981

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METEOROLOGICAL DATA REPORT 19304B MLRS, Missile Number V01-019, Round Number V-190/MD-44, 12 December 1981,

by



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ATMOSPHERIC SCIENCES LABORATORY WHITE SANDS MISSILE RANGE, NEW MEXICO

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UNITED STATES ARMY ELECTRONICS COMMAND



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19. KEY WORDS (Continue on reverse elde if necessary and identify by block number						
Reteorological data gathered for the launching Number V01-019, Round Number V-190/MD-44 presented	of the 19304B MLRS, Missile					

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INTRODUCTION

19304B MLRS, Missile Number V01-019, Round Number V-190/MD-44, was launched from LC-33, White Sands Missile Range (WSMR), New Mexico, at 1102:36 MST, 12 December 1981. The scheduled launch time was 1100 MST.

DISCUSSION

Meteorological data were recorded and reduced by the White Sands Meteorological Team, Atmospheric Sciences Laboratory (ASL), White Sands Missile Range, New Mexico. The data were obtained by the following methods:

- 1. Observations.
 - a. Surface:
- (1) Standard surface observations to include pressure, temperature (°C), relative humidity, dew point (°C), density (gm/m^3) , wind direction and speed, and cloud cover were made at the LC-33 Met Site at T-0 minutes.
- (2) Anemometer data were provided from existing pole-mounted and tower-mounted anemometers at LC-33. Monitor of wind speed and direction from one anemometer was also provide in the launch control room.
 - b. Upper Air:
- (1) Low level wind data were obtained from Pilot-Balloon observations at:

SITE AND ALTITUDE

LC-33 2 KM NICK 2 KM

(2) Air sturcture data (rawinsonde) were collected at the following Met Sites:

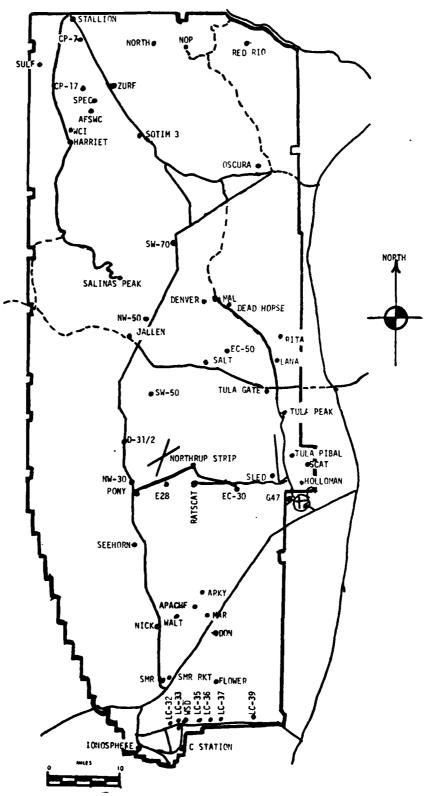
SITE AND TIME

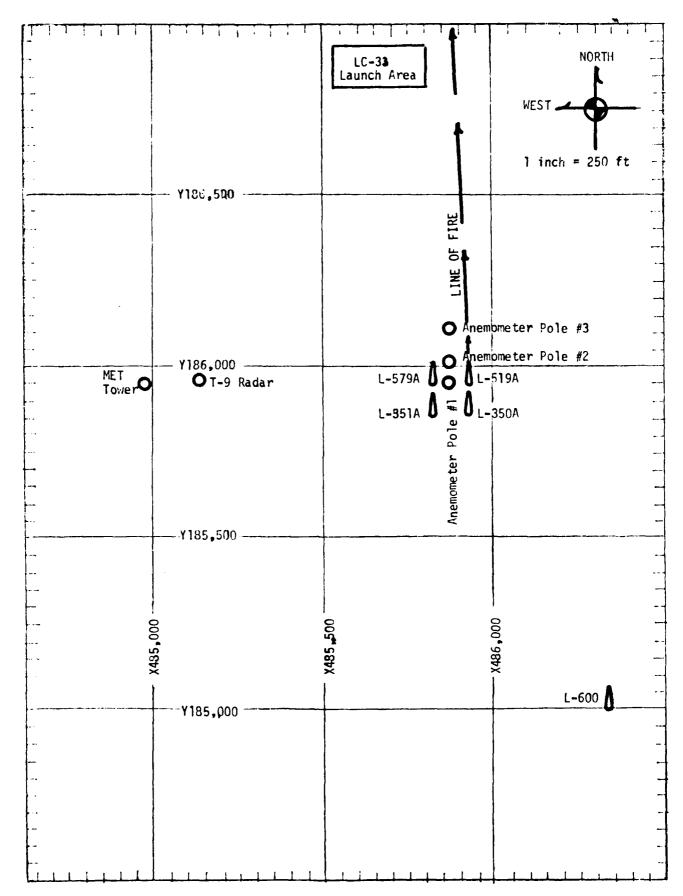
WSD 0800 MST LC-37 0900 MST WSD 1000 MST LC-37 1100 MST

Acces	sion For							
NTIS	GRA&I	V						
DTIC	TAB							
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Ava	Availability Codes							
	Avail and	or/						
Dist	Special							
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177	1							



WSMR METEOROLOGICAL SITES





PPOJECT SURFACE OBSERVATION

TABLE	_1							STATION LC-33	-33		
DATE 12 DAY	DEC	1981 YEAR	t					X= 484,982,64	Y=1	X= 484,982,64 Y= 185,957,53 H= 3,983.00	3,983.00
TIME IN IS I	PRESSURE mbs	TEMPERATURE OF OC	URE	DEW POINT OF OC		RELATIVE HUMIDITY	DENSITY gm/m ³	DIRECTION SPEED degs In kts	WIMD SPEED kts	CHARACTE kts	P VISIBIL-
1100	882.4		14.3		2.6	46	1064	C A L	Σ		45
											2

OBSTRUCTIONS 1st LAYER 2nd LAYER 3rd LAYER TO VISIBILITY AMT TYPE HGT AMT TYPE HGT 10 AS 12,000 AS 12,000				SUID	کار				
AMT TYPE HGT AMT TYPE HGT 10 AS 12,000	OBSTRUCTIONS		2	nd LA	YER	1 3rd	LAYE		O Mad Visita
10 AS 12,000	TO VISIBILITY		AM	TYP	E HGT	AMT	TYPE	HGT	
10 AS 12,000				_					
		10 AS 12 OC	מנ						
				_					
				·					

PSYCHROMETRIC COMPUTATION

TIME: MST	1100	
DRY BULB TETP.	14.3	
WET BULB TETP.	8.2	
WET BULB DEPR.	6.1	
DEW POINT	2.6	
RELATIVE HUMID.	46	

			_	
T	AВ	L	E	2

POLE #1 X485,874 Y185,956 H4018.74 38.7 ft	4.29 8.90 4			POLE #2 X485,874. Y186,012. H4033.57 53.0 ft.	00				POLE #3 X485,87 Y186,110 H4063.92 83.6 ft	7.29 5.06	<u> </u>		
T-TIME SEC	DIR DEG		SPEED KTS	T-TIME SEC	DIR DEG		SPER ETS	Ū	T-TIME SEC	DIR DEG		SPE KTS	
T-30	С	A	M	т- 30	С	_A_	L	М	T- 30	c	Α	L	М
T-20	С	Α	L M	T-20	c	_A	<u>_</u> _L	M	T-20	C	Α	L	М
т-10	C	_A	ц м	T-10	С	A	, L	M	T-10	С	Α	L	M
70.0	С	_A	ų M	T0.0	c	<u>A</u>	L	M	ני.טד	, c	A	L_	М
T+10	Ç	Α	L M	T +10	С	_A	Ļ	M	T+1.)	c	. A .	L	M

TABLE 3 LC-33 METEOROLOGICAL TOWER ANEMOMETER MEASURED WINDS (202 FT TOWER)

LEVEL #1, 12 X484,982.64,		057. 7 3	, нз98	33.00 (base)	LEVEL #2, 6 X484.982.64		57.73,	H3983	3.00 (base	e)
T-TIME SEC	DIR DE	G	SPEE	D KTS	T-TIME SEC	DIR DE	. G	SPE	ED KTS	
T-30	С	Α	L	М	T - 30	С	Α	L	М	
T-20	С	Α	L	М	T -20	С	Α	L	М	
T- 10	С	Α	<u> </u>	М	T -10	C	A	L	M	
T0.0	С	Α	¦ L	M	T 0.0	С	Α	L	М	
T+10	С	Α	<u> </u>	M	T +10	C	Α_	L	М	

LEVEL #3, 10 X484,982.64	2 FEET Y185,	057.73	, нз98	33.00 (base)	LEVEL #4, 20 X484,982, Y1			983.00) (base)
T-TIME SEC	DIR	DE G	SPE	D KTS	T-TIME SEC	DIR)E G	SPEE	D KTS
T-3 0	С	A	L	М	T -30	С	Α	L	М
T -20	<u></u>	<u> </u>	L	M	T -20	С	Α	L	М
<u>T-10</u>	c	Α	L	M	T-10	С	Α	L	M
70.0	L_C_	A	<u>L</u>	M	T 0.0	c	Α	L	М
<u>T+10</u>	L.C.	A		M	T +10	Lc_	A		М

T-TIME PILOT-BALLOON MEASURED WIND DATE DATE 12 December 1981

SITE: LC-33

TIME: 1103 MST

WST!! COORDINATES:

^{y=} 486,872.00

γ= 18**4,146.**80

H= 3,981.20

SITE: NICK

TIME: 1102 MST

WSTM COORDINATES:

X= 470,734.56

Y= 255,775.64

H = 4,126.57

LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS	LAYER MIDPOINT METERS AGL	DIRECTION DEGREES	SPEED KNOTS
SUPPACE	C A	L M	SURFACE	C A	L M
150	329	03	150	348	07
210	358	05	210	351	09
270	354	05	270	357	10
330	006	14	330	002	11
3 90	007	17	3 90	004	11
500	020	14	500	80.0	09
650	027	12	650	800	80
008	010	09	800	344	06
950	336	07	950	281	80
1150	276	13	1150	274	16
1350	284	18	1350	280	21
1550	283	25	1550	285	28
1750	277	28	1750	272	23
2000	275	23	2000	271	18

Data obtained from NIKE-HERC radar tracked pilot-balloon observation.

Data obtained from Single-Theodolite tracked pilot-balloon observation.

TABLE 5

AIMING AND T-TIME COMPUTER MET MESSAGES 12 December 1981

WSD 0800 MST	LC-37 0900 MST	WSD 1000 MST	LC-37 1100 MST
METCM1324064	METCM1324063	METCM1324064	METCM1324063
121400122880	121500124880	121600122881	121700124880
00000000 27980880	00000000 28280880	00000000 28500831	9000 00000 25 80088 0
01032014 28350869	01001011 28560869	01030010 28540870	01013016 28690870
02509014 28780843	02596007 28550844	02036012 28560845	026260:4 28470844
03512016 28590804	03548008 28390804	03603008 28 4 20805	03574009 28280805
04516018 28240757	04513018 28090757	04495018 28160758	04516013 28130757
05534017 27940713	05515017 27910712	M I S G	05490023 27900713
06503020 27680670	06490023 27670670	M I S G	06474021 27380670

SIGNIFICANT LEVEL DATA	346020737	WHITE SAUDS	TABLE 6
	11TUDL.	12 UEC. 01 0800 HRS NOT	ASCLUSION, 46. 137

	-	
>		
ו		
-		

VEUDETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG

REL., JUM.		0.40	41.0	38.0	34.0	•		•	•	•	19.0		•	•				79.0	79.0	17.0	67.1)	0.70																			
TEMPERATURE	DEWPOINT CENTIGRADE	٠. ٤	٠.	٠	-1.2	0.7_	-7.0	-13.5	ċ	-11.7	5.0	22	a.	\sim	28.	-55.9	\sim	÷	3.62-		-40.5	-41.5																			
TEMP	AIR Le GREES	n•y	13.2	•	•	10.5	†* (ಇ• ಬ	4.2	2.3		ς•.√•.				55	•	•	٠	•	-36.6	•	•	•	•	-57.4	-62.1	•	•	7.4	2•59-	71 • 11 - 1	-6.7.44	C* B'-	-6.7.1	1.14-	(4.4.5	1.3.1-	1.52-	2.00-
GFOME	AL.	3989.0	•	2	!	162.	•	*	10465.4	٠	3746.	• I + 3 - 3	198.	22087.5	23367.1	23798.7	24490.3	26450.0	~	29670.5	$\overline{}$	32426.0		~	3	46106.3	-	44230.9	~	4×132.6	48737.0	49916.3	52379.1	5,579,4•1	50,350.1	577/35.5	6.430154.5	61154.2	64133.6	65729.0	h7802+7
PRESSURE	MILLIBAKS	879.5	858.9	•		•	72A.3	•	÷	ò	515.4 57.3	•	•	•	•	411.6		358.6	55.	•	•	20u•5	0.033	232.4	211.2	J.007	\approx	163.3	150.0	134.1	•	122.7	٠	100.0		15.1	•	70.07	60.3	55.3	ġ•b¢,

STATION ALTITUDE 3989.nO FEET MSL 12 DEC: B1 0800 HRS MST ASCENSION NO: 737

SIGHIFICANT LEVEL DATA
346002073,
WHITE SAND,
TABLE 6 (CON'T)

VEODETIC COORUINATES32.40043 LAT DEG
106.37033 LON DEG

PRESSURE GFOMETRIC TEMPERATURE REL. ... UM. ALTITUDE AIR DEWPOINT PERCENT MILLIBARS MSL FEET DEGREES CENTIGHADE 47.5 68837.5 -63.9 34.9 75159.7 -58.2

STATION ALITIUDE	100r 39	3989.00 FFET M 0800 HRS MST	ET MSL MST	-	UPPER AIR DAT 346 ^U 020737 WHITE SANDS	0.4.1.A 5.7 J.S		UE ODE TIC 32.4	DETIC CODRUINATES
ASCENSION NO	110. /3/				TABLE 7			106.	106.37033 LON DEG
GEONETRIC	PRESSURE	TEM	TEMPERATURE	REL.HUM.	DENSTY	SPEED OF	"INU DATA	4 L	INUEX
ALTITUUL MSL FEET	MILLIDARS	AIH DEGREES	DEWPOINT CENTIGRADE	PERCENT	GM/CURIC METER	SUUND KNOTS	LIRECTION DEGREES (IN)	SPEEU NNOTS	OF REFRACTION
3989.0	879.5	0.0	3	0.40	1094.7	051.7	o•	0.	1.000273
4000		6.1	2	03.6	1093.8	051.9	282.1	.1	1.000273
4590.0	863.2	11.7	7.	45.8	1052.8		282.1	2.7	1.000264
0.0005		13.9	7.5	37.0	1026.0	_	202.1	5.3	1.000256
5500.0		14.0	†•!-	34.7	1007.5		262.1	7.9	1.000250
0.0000 0.0000	807.8	11.9	11.8	37.3	9.000	1,900 1,500	29.50	10.5	1.000246
7000.0	780.3	10.8	-2.1	38.6	1.196		295.7	12.1	1.000238
7500.0	774.0	9.8	-3.6	38.5	950.0		291.5		1.000234
0.000n	759.9	8•8	9•7-	37.7	937.0	_	292.0	17.0	1.000229
J•10C8	740.0	7.7	0•9-	37.0	923.4		7.467	17.8	1.000224
0.0006	132.4	2.9	-7.2	36.2	910.0		297.5	17.4	1.000220
9500.0	119.0	٠٠,	-9.3	32.1	H95.6	651.5	301.5	16.7	
100001	7007		-12-1	26.5	8.080	6.050	2.862	17.7	1.000208
3.00011	1.260) · ·	# DI	23.1	00/40 HE 2 :	6*6#9	234.0	18.0	
11500.0	6.4.0) + + +	15.9	21.9	830°B	8 × 2 + 3	74/02	19.7	1.000199
1.00001	654.8	7 · · ·	-17.9	20.00	627.7	547.6	27.5.0	700	1.000195
12500.0	647.5	 	-18.7	300	814.		0.007	8.00	1.000188
15000.0	630.5	6.	-19.6	19.8	6.000		203.3	20.9	1.000185
13500.0	614.6	• 5	-20.5	19.3	787.₺	-	204.7	20.8	1.000162
14000.0	0./09	5	-21.2	19.0	7.5.0	045.5	5/5/2	20.5	1.000178
14500.0	592.5	-1.3	-21.9	19.0	1,62.1	_	7.502	20.9	1.000175
15000-0	5.480	-2-1	-22.6	0.61	3.00°/	-	# # # # N TO	22.1	1.000172
0.00001	567.0	1.01	120.5	2.61	127.9	9.040 9.88.4	0.667	23.6	1.000163
16500.0	551.2	-5.5	-24.9	20.0	717.0		オ・カチン	24.2	1.000164
17000.0	540.5	1-9-	-24.6	20.4	106.4		299.0	54.9	1.000161
17500.0	530.1	6.4-	4.92-	9∙02	6.0,60		50005	26.0	1.000159
100001	6.614	-9-1	-27.2	21.2	482.0		3000	26.7	1.000156
18500.0	9.600	-10.3	-28.1	21.6	675.4	Ī	298.7	56.9	1.000154
19000.0	500•0	-11.5	-28.9	22.0	4.694	0.50•3	0.762	27.2	1.000151
19500.0	0.064	-12.7	-50.7	22.3	655.1	6-829	298.3	27.6	1.000149
500002	180.3	-13.8	-30.6	22.6	545.0	657.5	>-662	28.1	1.000146
200002	1.07	-15.0	-31.4	23.0	0.55.0		0.000 E 000	28.6	1.000144
21000.5	461.5	-16.2	-32.3	21.3	2.020		2000	29.1	1.00n142
0.00077	2.264	2	13.301	23.6	3,510	_	6.662 7.007	29.7	1.000139
	V • O + :	C . 0 .	D• #C-		1.000		1 • D (1 C	30.7	1.00001
0.00022	> + + 0 +		3 · [3]	33.	7.066		0.500	51.4	1.000135
0.0000	**02*	-51.1	1.1.	† • ^ ±	20/00	010./	0.100	04.5	1.000134

STATION ALTITUDE 398	395 JULI	89.00 FEET MS		-	UPPER AIR DATA	ATA.		6E 00F T 1	GEODETIC COOMBINATES
12 DEC. 61			MST		WHITE SANUS	. 3		32.	32.40043 LAT DEG
	110. 137				7	T'WOO		106.	106.37033 LON DEG
GEOME TRIC	PRESSURE	TEMF	TEMPERATURE	,EL.HUM.	DENS1TY	SPEEU OF	WINU DATA	1 A	INCEX
AL I I TUDE			DEWPOINT	PERCENT	OM/CUBIC	SOUND	IRECTION	SPEED	ð
rSL FEET	HILLIDARS	DEGREES	CENTIGRADE		METER	KN015	DEGREES(IN)	KNOTS	HEFRACT ION
23500 · p	410.7	-22.2	-27.8	60.1	1.876	617.3	300:1	37.0	1.000133
24000 · n	400.2	-22.4	-25.6	75.2	566.8	617.1	296.0	40.2	1.000131
24500.0	399.8	-22.0	-24.8	78.0	5-4-5	617.0	2.06.2	0.44	1.000128
25000•0	391.6	-23.0	-25.7	78.3	6.446	016.4	704.0	47.2	1.000126
25500•0	383.6	-23.9	-26.6	78.5	535.7		277.0	50.2	1.000124
20000z	375.7	-24.8	-27.4	78.8	526.7		273.0	54.3	1.000121
<u500.0< td=""><td>•</td><td>-25.8</td><td>-28.3</td><td>19.0</td><td>517.8</td><td>_</td><td>2/0.9</td><td>59.3</td><td>1.000119</td></u500.0<>	•	-25.8	-28.3	19.0	517.8	_	2/0.9	59.3	1.000119
700000	360.3	-26.5	-29.0	19.0	308.b		7.0.7	63.8	1.000117
27500.0	552.8	-27.4	-5ò•6	78.9	4.664		2/2.4	67.7	1.000114
0.00082	040.0	-28.6	-31.1	t • 6/	491.6		7.07	8.07	1.000112
28500.0	338.0	-29.7	-32.3	78.0	433.0		2,4.0	72.9	1.000110
29000-0	930.9	0.00	133.5	37.50	4.05.4	_	1.072	4.0	1.000108
0.00.65	6000	1.35° I	134.0	1.0	460	0.000	2017	70.6	1.000104
300000	310.2	133.0	7906	, t . t	**************************************	0000	7,47,	0.04	100010
0.00000	2.010		4.05.	2.87	445.4		76.7	0.46	1.000102
31000.0	0000	6.051	0 0 0 0	000	0.60%		275.	V + 10	1010000
0.0000	0.762	130.4	0 - 0	0,79	407.0	598.8	270.5	86.3	1.000099
125000-0	290.3	0.00		57.5.	4.004		7.570	86.2	1.000097
1,000.0		2000	2.44	**17.61	4.4.4		- 1/ · ·	8. c.	1.000003
3.450		V - 1 - 1	20.05	17.344	7 · 60 ·		274.0	8.65 B	1,000001
0.00044	26,106	0 0 0 0	5.00	07.0*	400		5.7/	86.6	1.00001
0.000	254.7	3000	0.40	17.1**	395		775.4	85.8	1.000058
35000•0	250.9	-45.8	6.99-	7.0**	389.0		276.0	85.0	1.000087
35500.0	240.3	-47.1			382.6		0.712	84.2	1.000085
300000	242.6	-48.6			576.5	583.8	78°U	83.4	1.000084
36500.0	237.0	-50.0			570.0		0.612	63.7	1.000082
37000.0	231.6	-51.3			563.7	-	Z01.5	6.48	1.00001
37500.0	250.2	-52.0			350.4		787°	86.8	1.000079
3000000	221.0	-52.7			249.2		C • C P .	6.69	1.000078
38500.0	215.8	-53.4			342.2		C•/97	95.2	1.000076
29000.0	210.8	154.2			535.5		7.692	97.3	1.000075
39500.0	205.9	-55.6			529.7		3.06.7	101.4	1.000073
40000+	201.0	-57.1			524.1	_	291.0	105.4	1.000072
40500.n	196.2	-58.3			518.2	-	2,42.5	109.4	1.00001
*1000·0	191.5	-59.5			512.5	569.4	272.0	113.3	1.000070
41500.0	180.9	7-60-7			300.5	567•B	6.262	117.2	1.000068
0.00024	186.4	6.19-			300.		0.56.7	119.7	1.000067
42500.0	178.0	-63.1			29295		293.0	121.2	3.000006
43000.0	173.6	1.49-			ZR9.7	562.9	7,567	121.5	1.300065

AT LEAST ONE ASSUMED RELATIVE HIMIDITY VALUE WAS USED IN THE INTERPOLATION.

		•	0		1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3
SPEEU	IRECTION DEGREES (IN)	SUUND	GM/CUBIC METER	PERCENT	ALTITUDE AIE DEWPOINT PERCENT GMZCUBIC SOUND TRECTION SPEED MSL FEET MILLIDARS DEGREES CENTIGNADE METER KNOTS DEGREES(IN) KNOTS	ALTITUDE MSL FEET
41	WIND DATA	SPLEU OF	REL.HUM. DENSITY SPLED OF	REL.HUM.	GEOMETRIC PRESSURE TEMPERATURE	GF OME TRIC
106.3		1,N0	TABLE 7 CON'T		ASCENSION 110. 137	ASCENSION
νΕυDL ΤΙC 32.41		7.5.7 #U.S	346 ⁰ 020757 WHITE SANDS		STATION ALTITUDE 3989.00 FEET MSL 12 DEC. 61 0800 HRS MS1	STATION A
		UKIA	UPPER AIN UAIA	_		

INDEX ED OF TS REFRACTION	9.7 1.000063	117.4 1.000062	-	108.2 1.000059	103.2 1.000058	1.000057	93.9 1.000055	92.6 1.000054	91.5 1.000052	7	88.2 1.000049	-	77.7 1.000047	71.7 1.000045	68.2 1.000044	-	-	65.7 1.000042	66.0 1.000041	65.7 1.000040	1	-	7	59.3 1.0000036	57.0 1.000035	-	51.8 1.000053	49.3 1.000032	1.00001	44.6 1.000030	42.5 1.000038	40.4 1.000029	37.8 1.0000.8	35.0 1.000027	32.2 1.0000.7	_	26.7 1.000026	-
WIND DATA IRECTION SPEED DEGREES(IN) KNOTS	293.5 119	295.60 117			293.5										262.u 66																	7.002	202.1	2659.5	\$\$ K+90.3	200.0		2300.7
SPEED OF SOUND KHOTS	561.2			-	4.755		557.5			588.7	9.004	562.0	5.790	562.1		561.1	560.3	559.4	558.7	558•4	-	557.7			558.7	559.0		2000.		562.7		56.3.8	563.9	-		•		0.195
DENS ¹ TY GM/CUBIC METER	284.3	279.0	<75.1	466.0	<60.6	254.4	247.7	241.5	<34.8	226.7	221.5	214.9	209,3	204.0	199.6	195.5	191.0	186.8	182.6	178.3	174.1	170.0	165.5	161.2	157.1	153.0	148.4	144.6	140.5	130.6	133.0	129.5	120.3	123.4	120.5	117.8	3.011	112.7
REL.HUM. PERCEUT																																						
TEMPERATURE H DEWPOINT EES CENTIGRADE	7	6	7	0	.	9	ŧ		8	5	_	0	7	ς.	-	7	M	6	Ę.	7	0	~	-	_	ئ	3	æ	0	2	ن ٠		7	5	•	2	5	1	£.
TEM AIK DEGREES	7.69-	6•09-	-61.1	0•84 <u>-</u>	±-68-	-68∙6	h-89-	-68.1	-67.8	-67.5	-66.1	-65.0	-64.7	-64.5	-65.1	-65.7	-66.3	-66.9	-67.5	-67.7	0·89-	-68.2	-68.1	-67.7	-67.5	-67.3	-66∙8	0.09-	-65.2	-54.5	-64.1	-63.7	-63.6	-63.9	-64.2	5.49-	-65.1	16.50
PRESSURL MILLIBARS	169.3	163.5	161.1	15/•1	150.2	149.3	140.6	142.0	130.5	135.0	131.7	120.4	125.3	124.2	119.2	110.2	110.4	110.6	107.3	105.2	102.5	0.001	97.5	95.1	45.7	h•06	80.2	ე•ი9	85.0	81.8	73.8	6.17	70	74.1	74.5	70.5	66.13	1./9
GFOMETRIC ALTITUDE MSL FEET	43500.0	44000.0	9.00544	45000+0	45500.0	40000	465A0•0	47000.0	47590.0	48000.0	48500.0	49000.0	4.9500.0	0·0000c	50500.0	21000.0	51500.0	52000.0	52500•0	53000.0	53500.0	0.000%	54500.0	2.00045	55500.0	56000.0	26500.6	0.0007ح	57500.0	28000.0	56500.0	0.00065	0.00565	0.0000	0. 00200	o10001°	01590.0	0.2000sp

9200E11, COORDINATES 32.40843 LAT DEG 106.37033 LON DEG	INDEX OF REFRACTION	1.000024	1.000023	1.000023	1.000022	1.000022	1.000021	1.000021	1.000020	1.000019	1.000019	1.000018	1.000017	1.000017	1.000016	1.000016	1.000016	1.000015	1.000015	1.000015	1.000014	1.000014	1.000014	1.000013	1.000013
02.002.11. 32. 106.	SPEEU KNOTS	24.4	25.3	26.3	27.3	27.3	24.7	22.1	17.2	11.9	8.9	8.6	8.5	21.3	34.7	47.2	57.6	68.0	63.5	9.64	36.1				
	WIND DATAIRECTION 5 UFGREES(1N) N	9.467	2,45.5	294:7	243.6	291•18	530.4	0.80>	20805	200.0	571.9	301.4	311.4	301.5	498°	4.762	295.B	3.4.2	495.6	298.6	304.5				
1.NO T. NO T	SPEED OF SOUND NIVOTS	558.2	557.3	555.9	554.3	552.0	552.0	553.4	554.8	556.2	559.1	504.3	568.1	568.8	269.0	568.2	567.3	566.5	565.6	564.8	564.0	564.5	2000	5000	5.070
UPPER AIK DATA 346U020737 WHITE SANUS TABLE 7 CON'T	ن	105.0	103.3	101.3	99.3	97.4	95.1	3.56	89.5	86.8	83.7	80.2	2.77	75.2	73.3	71.8	70.5	68.7	67.3	65.8	64.5	62.8	₽•09	58.9	57.1
-	REL.HUM. DEHSITY PERCENT GM/CUBI METER																								
T MST	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE																								
189.00 FFET M	TEM A1R DEGREES	-67.8	-68.5	9.69.	-700-	-71.9	-72.4	-71.3	-70.3	-69.3	-67.2	-63.3	-60.5	-40.0	-29.8	-60°5	-61.1	-61.7	-62.3	-63.0	-63.6	-63.2	-61.7	-60.2	-58.7
1111JDL 39 NO. /37	PRESSURE MILLIBARS	64.2	2.09	54.2	21.1	2005	5. 3.	ر ا ا	51	20.8	O • 5.4	0.00	4/.1	40.0	0 · 1 · 1	43.8	8.74	47.4	40.7	39.7	30.8	31.8	30.9	30.0	35.2
STATION ALIII 12 UEC. 61 ASCENSION NO.	GEUMETRIC ALTITUDE MSC FEET	6.00000	0.00040	0.00540	65000.0	0.5500.0	0.0000	0.00000	6.7000.0	0.00579	0.0000	0.00580	0.9000.0	0.00565	7,0000.0	0.0000	7,000.0	1200.0	7<0000.0	72500.0	75000.0	7.3500.0	74000.0	74500.9	75000-0

	OLODETIC COONDINATES 32.40043 LAT DEG	106+37033 LON DEG	WIND DATA	ON SPEED		8.4	10.4	17.6	10.2	50.6	20.7	24.2	27.2	29.68	4.3.B	1.69	9•48	84.5	100.1	124.2	8.66	71.5	64.5	#<>#	5 8 •8	25.7	1.6	54.3	
			P. F. W	DIRECTION	EGILES (TN)	282.1	295.2	293.5	490.0	22012	276.8	299•3	297.8	8.662	290.8	575.9	275.7	270.0	291.8	293.0	292.3	279.5	584.9	278.8	288.3	295.7	287.7	9•162	
v.t.5	- S		nc L. HUM.	PLACENT		38.	34.	37.	24•	21.	19•	20•	22.	54.	78.	79•	67.												
MAHDATURY LLVLLS	346UNZU737	TABLE 8	TE MPERATUME	DEWPOI.41	ENTIVRAUL		-2.3	-5.7	G•c1-	-19.2	-21.6	6.42-	-50.9	-35.4	-24.8	-30.3	3.04-												
NAI	-	•	1E MPE	NIK (ري ري	13.7	11.7	8.0	5.4	2.0	-1. 0	-5.6	-11.5	-17.6	-22.0	-27.A	-36.6	-46.7	-57.4	0.49-	-68.7	-64.7	-68.2	-64.2	4.49-	-68.9	-68.7	-62.8	
	۸۶ <u>۱</u> ۱۵		OPOTENTIAL		FEET	4920.	6593.	8352.	10209.	12182.	14288.	16548.	18972.	21591.	54447.	27637.	31208.	35271.	40004	42730.	45789.	.00464	53832.	58261.	60945.	64003.	67549.	72082.	
	STATION ALTITUDE 3989.00 FEET ASE 12 DEC. 81 0800 HRS MST	ION NO. 137	PRESSURE GEUPOTENTIAL		MILLIBARS	850•n	0.00€	150.0	700.0	0.049	U•009	550.0	200.0	420.0	4.004	350∙0	300.0	250.0	200.0	175.0	150.0	125.0	100.0	80.0	70.0	U•09	6.05	0.04	
	STAFIC 12 DEC	A SCLN!																											

** AT LEAST ONE ASSUMED RICATIVE HIMIPITY VALUE MAS USED IN THE INTERPOLATION.

9E0DETIC COORDINATES 32-40175 LAT LEG 106-31232 LON DEG	•																																				
UATA	REL ., UM.		9.44	45.0	55.0	3.45	0.4.	19.0	17.0	16.0	15.0	15.0	16.0	21.0	59.0	78.0	77.0	76.0	0.07	0.80																	
SIGNIFICANT LEVLL 3460180227 LC-37 TABL E 9	1:1	CEITIBORADE	ç.	~.	6•2-	Λ•01	9.0 0.0 0.0	-15.8	-18.1	-20.7	-22.3	-25+4	-53.6	-30.5 -30.5	2.05-	-20.1	-29.5	9.62.	7-36-	6.14-																	
SIGNIFI 3 LC LC	TEMPE AIR	ULVILLES	0.6	12.7	13.0) I • tt	1.05 6.8	6.1	6.4	2°9	1.5	4.2-	-13.2	D*: II	9.42-	+·. 2-	-26.7	1.42-	-35.1	-344.2	# : t	8./4.	-54.5	-68.6	1-64-7	-68.to	-6.4.6	<u>-66.1</u>	2.22-	9.02-	0.01		-56.6	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	-57.6	-57.4	154.0
T MSL	E GEOMETRIC ALTITUDE		4051.4	4405•4	4993.0	5661.2	5967.2	9680.1	10264.2	11440.1	12862.5	14713.8	19014.2	Z141/•9	23500.3	23931•1	24463.4	26098 1	29240.3	31186.3	0.01688	35235.7	39362.0	45740.1	49312.8	53828.9	58738.7	9.49609	64743.5	66435.8	0.26073	72366.0	76 300 1	78127.5	79425.6	835,03.9	85601.0
STATION ALITIUDE 4051.37 FEET MSL 12 DEC. 81 0900 HRS MST ASCENSION 140. 227	PKESSUME	MILLIBARS	9.678	H68.4	850.0	850.6	4-020	715.4	0.007	8.699	8*1159	591.6	0.003	1 · 911	*91h	0.003	0.004	#*C/C	356.6	300.00	262.6	0.055	0.3003	150.0	125.4	100.0	78.2	0.07	8-7-8	53.0	3.0C	* C * C * C	0.00 0.00	0.05	24.2	23.2	21.0

פון סמי ערוווחף מסוועזS	111UDL 405	51.37 FEET MSL	ET MSL	_	JPPER AIR L.1 3460140227	21.1A		UE UDE TIC	COOKUINATE
ASCENSION NO.	157	S) Daka	n E		TABLE 10			32. 106.	32-40173 LAI DEG 06-31232 LON DEG
6€ v 1€ TRIC	PRESSURE	TEMF	EMPERATURE	· EL.HUM.		secto OF	TAU UAT	1 A	INCEX
ALIIIUDE MSL FEET	MILLIUARS	AIH DEGREES	DEMPOINT CENTISKADE	PERCENT	GM/CUBIC METER	SCUND	JRLCTIUN DEGREES(IN)	SPEED KNOTS	OF KEFRACTION
4051.4	879.6	0.6	•5	55.0	1083.1	055.3	•	•	1.000271
4500.0	865.3	12.7	r: -	40.5			351.4	2.0	1.000262
≎000€	84.84	13.0	6.2-	33.0	1032.3	U	40106	4.2	00025
0.0040	3.00	11.8	-3.6	33∙8	1018.1		351.4	†•9	1.000249
≎•000€	3.65 £	11.4	-3.8	34.1	1,000.9		319.9	7.2	.00024
U.500.n	304.5	10.01		35.6	986.3	126.	305.6	ဆံ	.00024
70007	6.68/	†• 6	٠٠٠ <u>٠</u>	37.2	•	622.5	293.2	10.6	•
7500.0	775.5	ع ا	6 - 1	38.7	457.7	654.3	a•885	12.7	•
0.0000	19/	5.7	2	40.3	40°C	1929	0.000	13.	1.000230
0.0000	731.7	3 4	1001	20.00	• •	0.51.0	2410	0.41	
9,000	720.2	2	1.01	21.8	7.76A	6.149	792.5	15.0	• •
100001	700.9	1 3 0.0	-17.0	17.9	883.2	650.5	6.807		.00020
10500.0	693.8	†• †	-18.6	16.8	870.1	049.3	592	17.2	•
11000.0	680.9	3.4	-19.7	16.4	857.2	048.1	262.1	18.4	1.000197
11500.0	666.3	2•5	-20·8	16.0	844.2		278.0	19.8	•
1<000.0	655.8	2•1	-21.3	15.6	829.5		275.4	21.7	1.000190
J-200571	643.5	1.8	-21.9	15.3	815.0	040.1	272.7	24.0	•
15000.0	631.5	1.2	-22.5	15.0	401.3	645.5	2/0.3	26.9	•
13500.0	9•619	. 2	-23.4	15.0	_	044.5	C.0/2	27.6	•
0.000+1	6.709	o (-54.5	15.0	4.77,	043.0	0.2/2	26.5	•
14500.0	h•06c	-1.9	-25.1	15.0	765.B		0.//2	24.4	•
15000.0	585.0	1.0-	-26.0	15.1	# # # C / # = 7 /		1.992	22.3	1.0001/2
0.00001	4,76)	6.02-	2.CI	7.CF/	0.000	# 460	51.5	•
10500.0	551.7	0.0	-28.8	15.4	721.5		C.062	21.2	1000
17000.0	541.0	-8-1	-29.8	15.5	/10.9		7.95.7	21.3	.0001
1/500·C	530.5	h•6-	-30.7	15.6	700.5	_	5-562	22.4	1.000159
18000-	5-054	-10.7	-31.7	15.8	?• 06a		295.8	23.6	.0001
10500.0	510.2	-11.9	-32.6	•	080°	629	290.3	24.7	.0001
19000-0	500.3	-13.2	-33.6	16.0	670.5		244.5	25.8	.0001
19500.0	496.3	-14.4	-34.0	16.9	h59.8	t120•	207.4	56.9	1.000149
0.0000×	480.5	-15.6	34.5	17.8	3.640	625	7.08•1 	27.0	.00014
0.00002	ລ•0/+	-16.8	-35.0	18.6	0.950	6529	3.607	26.6	• 00m
< 1000.0	† • T • †	-17.9	-35.6	19.5	7-629	4.524	291.5	26.0	J:
J-00512	2.26	1.61.	-36.1	50.4	0.020	621.0	2,53.5	o•c>	1.000140
3.00022	1 • 9 • 1	1-00-	ر :	25.1	010.5	4.619	0.462	26.	1.000138
0.00522	ပ် • ၂ ၈၈ ၁	-21.9	-32.7	36.4	501.3	11.1	2,062	•	0001
<.5000s>	Ω	2.56-	-51.2	_	C • 76C		7,06,7	•	1.000135
7.00562	*10.	124.5	-30.3	59.0	585.4	014.3	2,002	32.9	1.000133

	SEODLTIC COGGD14A1ES	32.40175 LAT UEG	106.31232 LON LEG
UPPER AIR LAIA	246.136027	LC-3/	TABLE 1 - CO. 1
	STATION ALTITUDE 4051-37 FEET MSL	12 JEC. 01 0900 HRS MJT	ASCEUSION 140. 227

## FEET HILLIAMS DECREES CLIVITANDE PROCEST MY ALIVENTING SPEED OF TAXABLE MATCHED ALIVEN SPEE	GFU-JETRIC	PRESSURE	TEM	TEMPERATURE	EL.HUM.	DENS 114	SPLEU OF	*INU DATA	14	INUEX
99.4 -26.7 -27.6 77.9 569.5 6.15.3 248.4 41.9 19.1 26.7 -20.5 77.0 564.3 6.11.7 244.3 52.3 15.2	ALIIIUDE MSL FEET	HILLIDARS	AIK DECHLES	UEMPOINT CENTIGRADE	PERCENT	GM/CURIC METUR	STOTA RTOTS	INCTION (IN GREES (IN)	SPLEU	OF REFRACTION
99.4		1 1			ţ	; ;				
39.4 -26.7 77.0 564.3 101.7 203.7 41.9 39.4 -26.7 -27.5 77.0 55.2 011.7 203.7 40.9 39.4 -27.5 -30.6 76.1 92.3 011.7 203.7 40.9 36.1 -27.5 -30.6 76.1 92.3 011.7 203.4 55.3 36.1 -27.5 -30.6 76.1 92.3 011.7 203.4 56.2 10.9 10.9 52.3 10.9 56.2	C+001147	0./0.	-23.8	-5v•p	6.//	269.5	615.3	292.5	37.3	1.000151
39.1. 726.7 78.2.5 11.7 243.7 46.9 39.2. 29.2. 76.4 91.7 274.9 50.0 1 39.2. 29.7 76.4 91.7 274.9 50.0 1 39.2. 20.7 20.6 76.4 929.7 11.7 272.4 1 1 272.4 272.4 1 272.4 1 272.4 272.4 1 272.4 1 272.4 <td>C4500.0</td> <td>797.4</td> <td>-20.7</td> <td>-29.5</td> <td>77.0</td> <td>5.495</td> <td></td> <td>208.4</td> <td>41.9</td> <td>1.000129</td>	C4500.0	797.4	-20.7	-29.5	77.0	5.495		208.4	41.9	1.000129
382.9 -20.7 -70.6 76.4 541.0 511.7 274.5 50.0 359.3 -20.5 -30.6 76.1 50.9 711.7 272.3 50.0 359.3 -20.5 -30.6 76.1 50.0 77.1 50.0 50.2 30.0 50.0	25000.5	391.1	-26.7	-50.5	7.97	552.5		403.1	6.94	1.000126
373.0 256.7 -27.5 -57.5 50.7 -57.5 50.7 50.3 50.1 50.3 50.1 50.2	25500•€	585.9	-26.7	-50.6	76.4	541.0		279.0	50.0	1.000124
367.1 -27.5 -30.5 75.2 50.3 uii.7 7/2.4 50.4 15.2 50.4 15.2 50.2 15.4 15.2 50.2 15.4 15.2 50.2 15.2 50.2 15.2	25000.C	375.0	-26.7	-50.6	76.1	7.654		<74.3	52.3	1.000161
559.3 -28.5 -31.7 74.3 511.5 66.2 56.2	20500.0	567.1	-27.5	-30.5	75.2	520.3		272.4	54.4	1.000119
351.7 -29.6 -32.8 73.3 502.6 62.3 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 34.4.3 30.0 52.3 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 59.2 10.7 10.7 59.2 10.7 59.2 10.7 10.7 59.2 10.7 10.7 59.2 10.7	₹7000.5	559.3	-28.5	-31.7	74.3	511.5		2/1/2	56.2	1.000117
344.3 -30.6 -33.9 72.4 494.3 570.c 62.3 11 330.1 -31.6 -35.0 71.4 485.9 57.7 60.0 62.3 11 330.2 -35.1 70.5 477.7 60.0 52.3 1 330.4 -35.1 -70.5 477.7 60.0 52.3 1 310.4 -35.1 -36.4 40.0 68.2 469.8 60.2 270.1 68.7 1 310.4 -37.7 -40.0 68.2 469.8 606.8 270.1 72.0 1 300.4 -37.7 -40.0 68.2 467.8 597.8 270.1 72.7 1 1 1 270.1 1 1 1 270.1 1	27500.0	551.7	-29.6	-32.8	73.3	90500		£10.7	59.2	
337.1 -31.6 -35.0 71.4 485.9 505.6 203.7 65.3 320.9 -32.6 -37.4 69.7 469.5 500.2 68.4 1 320.9 -35.1 -37.4 69.2 469.2 501.2 270.1 70.2 312.9 -35.1 -37.7 400.2 462.2 601.2 270.1 72.0 302.4 -37.7 -41.4 68.7 467.2 601.2 72.0 1 302.4 -37.7 -41.4 68.7 467.2 575.5 72.0 1 202.4 -37.7 -41.4 68.7 47.7 400.4 77.7 1 202.4 -43.7 -40.4 68.7 47.7 400.4 72.0 1 202.4 -41.2 -40.4 68.7 47.7 400.4 77.7 1 202.5 -40.7 40.2 -40.4 40.2 77.4 40.1 1 202.7 -40.4 40.2 40.4 27.4 77.4 40.1 1 1 1 1 <td>20000.0</td> <td>344.3</td> <td>-30.6</td> <td>-33.9</td> <td>72.4</td> <td>494.3</td> <td></td> <td>210.5</td> <td>62.3</td> <td></td>	20000.0	344.3	-30.6	-33.9	72.4	494.3		210.5	62.3	
330.6 -32.6 -36.1 70.5 477.7 604.3 269.1 68.4 13.2 22.0 33.8 -37.4 69.7 469.8 602.8 272.1 71.2 13.8 -37.4 69.7 469.8 602.8 272.1 71.2 13.8 -37.4 69.7 469.8 602.8 272.1 71.2 13.8 -37.7 -41.4 68.7 454.6 599.5 273.5 772.1 71.2 202.4 -37.7 -41.4 68.7 459.8 574.8 273.5 772.1 72.7 13.8 293.8 -41.2 -50.5 35.2 47.4 432.9 594.8 274.8 77.7 4 432.9 594.9 274.8 274.8 61.9 17.2 594.8 47.4 57.2 594.8 47.4 57.8 591.9 274.8 61.9 17.2 594.8 47.4 57.2 591.9 274.8 61.9 17.2 594.8 47.4 57.2 591.9 27.7 4 40.2 270.5 49.8 47.4 57.2 591.9 27.7 4 40.2 270.5 49.8 47.4 57.2 591.9 27.7 4 40.2 270.5 49.8 47.4 57.2 591.9 27.7 4 40.2 270.7 4 40.2 270.7 4 40.2 270.7 4 40.2 270.7 4 40.2 270.7 4 40.2 270.7 4 40.2 270.7 591.9 270.7 591.9 270.7 591.9 270.7 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 591.9 270.7 591.9 5	20200€	337.1	-31.6	-35.0	71.4	485.4	Ī	209.7	65.3	
322.9 -33.8 -37.4 69.7 469.8 502.8 270.5 70.0 352.9 -35.1 -37.7 69.2 462.2 273.5 77.2 302.4 -35.1 -40.0 -40.0 273.5 77.2 302.4 -36.9 -40.0 273.5 77.2 77.2 202.4 -36.9 -47.7 45.9 57.5 77.2 77.7 202.4 -40.1 -46.8 47.7 47.9 27.9 76.6 17.7 202.9 -42.3 -67.4 47.7 47.4 47.7 47.4 47.7 202.9 -41.2 -57.2 27.7 47.4 47.7	9.00062	330.0	-32.6	-36.1	70.5	477.7		403.1	68.4	
315.9 -35.1 -58.7 69.2 462.2 5011.2 272.1 71.2 305.4 -40.0 68.7 467.6 69.5 273.5 72.0 1 305.4 -43.7 -41.4 68.7 49.9 575.5 72.0 1 295.6 -37.7 -41.4 68.7 47.4 59.5 77.0 76.7 1 289.3 -40.1 -45.8 47.7** 435.3 594.8 27.4 81.9 1 1 1 27.0 76.7 1 1 27.0 1 1 27.0 76.0 1 1 27.0 1 1 1 27.0 1 1 1 1 27.0 1 1 1 1 27.0 1 1 27.0 1 1 1 27.0 1 1 1 27.0 1 1 1 27.0 1 1 27.0 1 1 27.0 1 1	29500.0	324.9	-33.8	-37.4	2.69	8.69h	_	270.3	70.0	
309.1 -36.4 -40.0 68.7 454.6 575.5 275.5 12.7 11.4 68.2 447.4 597.8 277.1 12.7 11.4 68.2 277.2 277.2 12.7	30000€	312.9	-35.1	-38.7	69.2	462.2		272.1	71.2	
302.4 -37.7 -41.4 68.2 447.4 597.8 2/4.6 72.7 1 293.6 -38.9 -43.7 60.2** 439.9 5/9.4 2/7.9 1	30500•0	509.1	-36.4	0.04-	68.7	454.6		273.5	72.0	
290.8 -38.9 -43.7 +00.2** 439.9 590.3 275.0 76.6 1289.3 -400.1 -46.8 47.7** 432.3 594.8 270.4 81.9 128.2 22.7** 432.3 594.8 270.4 81.9 128.2 22.7** 417.5 591.9 270.5 -442.3 -50.5 35.2** 417.5 591.9 270.5 -442.3 -55.2 22.7** 417.5 591.9 270.5 90.4 128.2 270.5 -442.5 -52.2 22.7** 417.5 591.9 270.9 270.7 90.4 128.2 244.5 -440.5 -62.3 10.2** 410.3 590.9 270.7 90.4 128.2 240.9 -440.5 -62.3 10.2** 410.3 590.9 270.7 90.4 128.2 240.9 -440.5 -62.3 10.2** 410.3 590.9 270.7 90.4 128.2 240.9 -440.5 -62.3 10.2** 410.3 592.9 582.9 570.1 80.4 128.2 240.7 -42.2 -52.4 598.9 582.9 582.9 570.1 570.9 582.9 570.1 570.9 582.9 570.1 570.9 582.9 570.1 570.9 582.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.1 570.9 570.9 570.1 570.9	31000.0	302.4	-37.7	-41.4	68.2	447.4		2/4.8	72.7	
289.3	31500.0	295.8	-38.9	-43.7	**5.00	439.9	5.060	273.0	76.6	
286.9 -41.2 -50.5 35.2** 424.8 593.4 275.4 36.1 270.6 -42.3 -55.2 22.7** 417.5 591.9 276.5 90.0 270.5 -43.5 -55.2 22.7** 40.4 277.5 90.4 1 20.6 -44.6 -55.2 22.7** 40.4 90.4 1 20.5 -44.6 -5.2 22.7** 90.4 1 20.5 -44.6 -6.4 90.4 1 1 20.5 -47.2 20.0 27.7 87.4 1 25.7 -40.9 20.0 27.2 27.7 87.4 1 240.9 -40.5 50.0 27.7 87.4 1 1 240.9 -40.5 50.0 27.7 87.7 1 <td< td=""><td>35000.0</td><td>289.3</td><td>-40.1</td><td>-46.8</td><td>47.74</td><td>432.3</td><td></td><td>8.4/2</td><td>81.9</td><td>1.000097</td></td<>	35000.0	289.3	-40.1	-46.8	47.74	432.3		8.4/2	81.9	1.000097
270.6 -42.3 -55.2 22.7** +17.5 591.9 275.9 90.0 270.5 -43.5 -52.2 10.2** +10.3 590.4 277.9 90.4 270.5 -43.5 -52.3 10.2** +10.3 586.9 277.9 90.4 1 250.5 -45.9 -45.9 -45.9 57.9 690.4 1 <td>3<500</td> <td>284.9</td> <td>-41.2</td> <td>-50.5</td> <td>n</td> <td>R**2#</td> <td></td> <td>275.4</td> <td>96.1</td> <td>1.000045</td>	3<500	284.9	-41.2	-50.5	n	R**2#		275.4	96.1	1.000045
270.5 -43.5 -02.3 10.2** #10.3 590.4 2/7.9 90.4 1 250.5 -44.6 -02.3 10.2** #10.3 579.7 90.4 1 250.5 -44.6 -02.3 10.2** #10.3 579.7 90.4 1 250.5 -47.2 -00.4 579.1 90.4 1 1 250.5 -47.2 582.6 579.1 279.1 87.9 1	33000•0	270.6	-42.3	-55.2	N	417.5		276.3	0.06	1.000053
250.5 -44.6 250.5 -44.6 250.5 -45.9 250.5 -45.9 250.5 -45.9 250.5 -45.9 250.7 -47.2 250.9 -48.5 250.7 -47.2 260.9 -27.3 260.9	33500.0	270.5	-43.5	-02.3	0.2*	410.3		217.9	h*06	1.000091
250.5 -45.9 279.1 89.9 1 252.7 -47.2 289.6 582.8 278.4 89.4 1 240.9 -44.2 582.8 584.0 277.3 87.9 1 240.9 -44.5 582.8 584.0 277.3 87.9 1 240.9 -50.9 582.4 275.3 87.1 1 230.0 -52.2 562.6 579.1 280.5 87.1 1 224.7 -53.4 362.6 577.5 280.5 87.1 1 219.4 -54.6 343.6 577.5 291.0 89.4 1 219.4 -54.6 343.6 577.5 291.0 89.4 1 219.4 -55.9 377.5 577.5 291.0 89.4 1 209.3 -57.1 377.5 577.5 291.0 89.4 1 209.4 -55.9 577.5 577.5 577.5 291.0 1 209.6 -60.6 580.6 577.5 577.5 291.0 1	3+000•0	204.5	9-11-			403.2		1.612	7. 06	1.000090
252.7 -47.2 282.7 -47.2 240.9 -48.5 240.9 -48.5 241.1 -49.7 240.9 -48.5 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -49.7 241.1 -54.6 241.1 -44.6 241.1	34500.0	250.5	9+34-			396.4		27.9.1	69.6	1.000088
240.9 -48.5 582.8 584.0 277.5 87.9 1 241.1 -49.7 575.9 575.5 576.5 86.6 1 230.5 -50.9 57.2 578.5 577.5 87.1 1 230.0 -52.2 55.4 575.5 240.5 87.7 1 224.7 -53.4 55.4 575.5 240.5 89.4 1 219.4 -54.6 575.5 240.5 89.4 1 219.4 -54.6 575.5 247.5 89.4 1 219.4 -55.9 571.0 577.5 247.5 1 209.4 -58.4 571.0 577.5 291.6 1 209.4 -58.4 571.0 577.5 291.6 1 190.6 -58.4 571.0 577.5 571.0 1 190.6 -61.7 570.0 570.0 571.0 1 180.6 -61.7 570.0 571.0 1 1 180.6 -62.7 571.0 571.0 571.0 </td <td>35000.0</td> <td>252.7</td> <td>-47.2</td> <td></td> <td></td> <td>289.6</td> <td></td> <td>278.4</td> <td>4.68</td> <td>1.000087</td>	35000.0	252.7	-47.2			289.6		278.4	4.68	1.000087
241.1 -49.7 575.9 582.4 276.5 86.6 1 230.5 -50.9 562.6 578.5 87.1 1 230.0 -52.2 562.6 579.1 280.5 87.7 1 224.7 -53.4 55.1 57.5 286.1 1 219.4 -54.6 57.5 286.1 89.4 1 219.4 -54.6 57.5 286.1 89.4 1 219.4 -54.6 57.5 291.0 89.4 1 209.3 -55.9 571.0 577.5 291.0 89.4 1 209.4 -58.9 571.0 577.5 291.0 89.4 1 194.6 -58.4 577.0 577.0 577.0 1 194.8 -60.6 577.0 577.0 577.0 1 194.8 -60.6 577.0 577.0 577.0 1 190.6 -61.7 500.9 577.0 577.0 1 185.4 -62.7 500.0 565.1 1 180.6 -62.7 500.0 565.1 1 180.6 -63.8 78.0 78.0 1 180.6 -65.9<	35500.0	240.9	-48.5			382.8	•	£77.3	87.9	1.000085
230.5 -50.9 569.2 562.6 575.5 1 280.5 87.7 1 230.0 -52.2 562.6 579.1 280.5 87.7 1 224.7 -53.4 53.4 580.1 577.5 280.5 87.7 1 219.4 -54.6 549.6 549.6 577.5 291.0 89.4 1 209.3 -55.9 57.1 572.0 591.0 1 209.4 -58.4 57.1 572.0 1 1 209.4 -58.4 571.0 572.0 1 1 209.4 -58.4 572.0 572.0 1 1 209.4 -59.6 573.0 572.0 573.0 1 1 194.6 -59.6 573.0 577.0 577.0 1 1 1 194.6 -61.7 57.0 560.0 560.0 560.0 1 1 1 185.4 -62.7 50.0 56.0 56.0 1 1 1 1 1 1 1	301)00•0	241.1	1.64-			375.9	-	2/0.5	96.6	1.000084
230.0 -52.2 562.6 577.5 220.5 1 224.7 -53.4 550.1 577.5 200.1 1 219.4 -54.6 549.6 549.6 1 214.3 -55.9 57.1 89.4 1 209.3 -55.9 57.1 89.4 1 209.3 -57.1 57.5 291.0 89.4 1 199.6 -58.4 57.5 572.0 1 199.6 -59.6 573.0 572.0 1 190.6 -59.6 573.0 560.5 1 190.6 -61.7 513.0 560.5 1 185.4 -62.7 500.9 565.1 1 180.8 -63.8 500.9 565.1 1 17c.4 -64.8 783.7 783.7 1 167.3 -65.9 783.7 1 1 167.3 -65.9 789.4 1 1	J-0050C	232.5	-50.9			2.695	-	2/8.5	87.1	1.000082
224.7 -53.4	0.00m/c	230.0	-52.2			362.6	-	280.5	87.7	1.000041
219.4 -54.6 549.8 575.9 291.0 89.4 1 214.3 -55.9 243.6 574.2 1 204.3 -57.1 37.5 572.0 1 204.4 -58.4 331.5 571.0 1 194.6 -58.4 353.5 557.0 1 194.6 -69.6 213.5 267.9 1 194.6 -61.7 313.0 366.5 1 185.4 -62.7 300.9 365.1 1 180.4 -62.7 300.9 365.1 1 170.4 -64.8 67.0 67.0 67.0 1 167.3 -65.9 783.7 1 1 167.3 -67.0 783.7 1 1	37500.0	224.7	-53.4			350.1	-	200.1	88.1	1.000079
214.3 -55.9 209.3 -57.1 209.4 -58.4 204.4 -58.4 199.6 -59.6 194.8 -60.6 190.8 -62.7 180.4 -62.7 200.9	ວ•000ຄc	219.4	-54.6			349.8		291.0	•	1.000078
209-3 -57-1 204-4 -58-4 199-6 -59-6 199-6 -59-6 194-8 -60-6 194-8 -61-7 190-6 -61-7 180-4 -62-7 180-8 -63-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8 170-4 -64-8	302000	214.3	-55.9			343.b				1.000077
204-4 -58-4 531-5 571-0 1 199-6 -59-6 509-5 509-5 1 194-8 -60-6 509-5 505-9 1 190-6 -61-7 513-0 560-5 1 185-4 -62-7 500-9 565-1 1 180-8 -63-8 500-9 565-1 1 170-4 -64-8 505-1 505-9 1 172-1 -65-9 500-6 500-6 1 167-3 -65-9 500-6 500-6 1	0.00040	20%	-57.1			337.5				1.000075
199.6 -59.6 509.5 194.8 194.8 -60.6 509.5 50.7.9 194.8 -60.6 50.9.5 50.7.9 190.0 50.7.9 190.0 50.7.9 190.0 50.7.9 190.0 50.7.9 190.9	39500.0	504.4	-58.4			331.5				1.000074
194.8 -60.6 513.0 565.5 113.0 565.5 113.0 565.5 113.0 565.5 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.1 113.0 565.0 565.1 113.0 565.0 565.1 113.0 565.0	O-00004	199.6	-59.6			323.6	€. 90€			1.000073
190.6 -61.7 313.0 566.5 1 185.4 -62.7 500.9 565.1 1 180.8 -63.8 57 1 170.4 -64.8 675.0 562.3 1 172.1 -65.9 783.7 559.4 1	40200.0	194.8	9.09-			5,610	56.7.99			1.000071
185.4 -62.7 500.9 565.1 1 180.8 -63.8 505.7 1 170.4 -64.8 505.0 562.3 1 172.1 -65.9 7 7.83.7 559.4 1	41000.0	190.6	-61.7			513.0	566.5			1.000070
180.8 -63.8 505.7 1 170.4 -64.8 205.0 502.3 1 172.1 -65.9 789.3 500.0 1 167.3 -67.0 783.7 559.4 1	41500.0	185.4	-62.7			200.9	565.1			1.0000cB
170.4 -64.8 205.0 562.3 1 172.1 -65.9 789.3 560.6 1 167.3 -67.0 783.7 559.4 1	0.00024	180.8	-63.8			6.00C	56.5.7			1.000007
172-1 -65-9 cr9-3 550-6 167-9 -67-0 cr9-3 550-6 17-9 167-9 17-9 17-9 17-9 17-9 17-9 17-9 17-9 1	42500.0	170.4	-64.8			0.502	•			1.000000
16/+3 -67+0 -67+0 -11+	45000.1	174.1	6-59-			1.69.5	•			1.0000-4
	43500.0	16/03	-67.0			783.7	4.630			1.000063

^{**} AL LLAST ONE ASSUMED RELATIVE HIMIDITY VALUE WAS USED IN THE INTERPOLATION.

XX WIND DATA INVALID DRE TO MISSING RAW ASTMUTH AND ELEVITION AMOLES.

			_	UPPER AIR UAT	J _H IA			
STALION AL 12 JEC. BI	TITUDE 40	STAIION ALIITUDE 4051+37 FEET MSL 12 DEC. 81 0900 HRS MST		346 ⁰ 180227 LC-3 ⁷	-		0E.0DE.1.1C	IC COUNDINATES 40175 LAI DEG
ASCENSION NO.	NO. 227			10	1,1:00		106.	106.31232 LON DEG
GEUMETRIC	PKESSURE	TEMPEKATURE	REL.HIM.		SPEED OF	WINU DATA	1 A	INCEX
AL111UDE MSL FELT	MILLIUARS	AIR DEWPOINT DEGREES CENTIGRADE	PERCENT	GM/CUBIC METER	SCUND	IRECTION OF GREES (IN)	SPEED KNOTS	OF REFRACTION
44000.0	163.8	-67.8		277.8	558.3			1.000062
44500.0	159.7	-68.0		271.2				1.000060
45000.0	155.7	-68.2		264.7				1.000059
45500.0	151.8	-68.5		258.4				1.000058
40000+	140.1	-68.3		251.8				1.000056
4c500.0	1.4.4.	-67-8		6 * ##Z				
47500.0	140.0	-61.2		238.2	559•1			1.000053
40000.0	130.9	-66.1		225.4	560.5			1.000050
48500.0	130.6	-65.6		219.2	561.3			
0.00064	121.4	-65.0		213.2	562.0			1.000047
49500.0	124.2	6-19-		207•B	562.2			1.000046
200005	121.2	-65.3		203.1	561.7			1.000045
0.00000	110.2	-65.7		198.4	561.1			1.000044
0.00015	7.011	2.09-		993.9	560.5			1.000043
51500.0	112.4	1,40		189.5	559.9			1.000042
J-0007C	103.0	0./91		183.2	559.5			1,00001
0.00020	100.3	16/10		0.781) - pcc			0.0000
33000.0	101.7	-61.57 -68.3		172.0	7.000			0.0000
54000.0	99.1	# 66 65 55 55 55 55 55 55 55 55 55 55 55		168.7				1.000038
54500.0	90.7	-68.1		164.2				1.000037
25000.0	6.46	-67.6		159.9				1.000036
55500.0	J•76	-67.2		155.6				1.000035
5600n.	69.7	-66.8		151.4				1.000034
0.00595	G•/8	-66·4		t • / ti :				1.000033
5.0007c	0 • 0 e	166-C		139.7	560•7			1.000032
58000.0	81.1	-65.2		135.9	501.8			1.000030
58500.0	79.1	-64.8		132.3	562.3			1.000029
0.00045	77.2	-64.8		129.0	562.4			1.000029
53500.0	75.3	-65.1		120.1	561.9			1.000028
00000a	73.4	-65°4		123.2				1.0000.7
0.00cna	71.6	-65-8		120.5				1.000027
61009.C	7. T	166.2		117.6				1.000026
0.0000	1.00	0.191		10.1	9999			
0.00020	* 00 * 17	191.00		112.1	0000			1.00001
0.00020	0	0.00		10.0	7.100			1.0000
0.0000	1.00	169.4		6 1 1 7	1.000			1.0000 t
2	•	3.00		7 2 1	0.000			1 • UDDOC 4

XX WIND DATA INVALID DUE TO MISSING RAW ACTRUTH AND ELEVATION ANGLES.

VEODLTI: COORDINATES 32.40175 LAT DEG 106.31232 LOM DEG	INDEX EU OF IS REPRACTION	1.000023	1.000023	1.000022	1.000021	1.000021	1.000020	1.00001	610000 - 1	1.00001	1.000017	1.000017	1.000016	1.000016	1.000016	1.000015	1.000015	1.00001	1:000014	1.000013	1.000013	1.000013	1.000012	1.00n012	7100001	1.000011	1100001	• -	45.8 1.000010	-		41.5 1.000010		~	-	3	48.2 1.000009
υΕ ΟΕ 1	"INU DATA UIRLCIIUN SPEEU DEGRLESTIN NNOTS																											44.7.7									502.4
Un1A 227 CON'T	SPLED OF SOUND KNOTS	4 553.9	8.50.			-	_	•		_	1 568.4 4 568.4	-		5.000 3				1 004.4								G 5/3-8											
UPPER AIM UAIA 3460180227 LC-37 TABLE 10 CON'	DENS ¹ TY GM/C ^U 71C METER	103.4	101.2	98.6	96.1	4.ξύ		æ (3.00	26.00	70.4	74.7	73.1	71.5	6.69	+•89 • €	5.99	00.00 4.54	61.7	0.09	56.3	56.7	55.1	53.6	1.50	# 500 H	7 147	4.74	tr.	45.4	44.3	43.3	42.3	41.5	40.3	34.0	30.4
	REL.HUM. PERCENT																																				
1.37 FEET MSL 900 HRS RST	TEMPERATURE AIR DEWPOINT DEGREES CENTIGRADE	-71.0	-71.8	-72.0	-71.5	-71.0	-70.3	<u>-</u> 68• <u>0</u>	-65.7	61.03 -FOB	-60.3	-60.8	-61.3	-61.7	-62.2	-62.1	-63.2	163.5 163.0	-61.66	-60.7	-59.8	0.65-	-58.1	-57.3	156.5 50.00	2.95-	50.0	1000	1000	-57.6	-57.6	-57.5	-57.5	-57.5	-57.5	-57.4	-57.4
111 ¹ /Dt 4 0 51 09 NO. 227	PRESSURE MILLIDARS D	6.00	5.65	27.0	50.6	54.2	გ•79	51.5	20.5) d 	40.7	45.5	5. 4. 5	オ・ウオ	46.3	t 11 • 3	7 • O •	0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00	3/.5	30.0	35.7	34.9	34.0	35.2	36.4	31.0	000	1 1 2 2	28.85	20.1	21.4	8.02	20.5	25+5	54.5	24.3	23.H
STATION ALTITUDE 405 12 DEC- 81 ASCENSION NO. 227	GEOMETRIC ALTITUDE MSL FEET	0.000#a	0.00049	0.00049	0.500.0	0.00000	0.00599	0.0000	67500.0	9.00000	0.00069	69500.0	70000	70509.0	71000-0	71500.0	7.5000.0	7.5000-0	7.3500.0	74000.0	7.500.0	75000.9	75500.6	7.000.0	75:00	7.500.0	74000.0	7,4500.0	79000•0	7.4500.0	0.000va	9.00509	81000.0	91500.0	0.00029	8<500.0	85000.0

AX NIND DATA INVALID DUE 10 ISSTUG RAW ALTHUIN AND ELLY ILDIA AUGLESI

STATION AL 12 DEC. 61	.11170DE 40\$	STATION ALTITUDE 4051.37 FEET MSL 12 DEC. 81 0900 HRS MST		UPPER AIR UAIR 346 ⁰ 180227 LC-3 ⁷	27		UEODET)	S2.40175 LAT UEG
ASCENS 1 UT	NO. 227			TABLE 10 CON'T	CON'T		001	SIESE LUN DES
GEUMETHIC PRESJURE	PRESJURE	PRESSURE TEMPERATURE SEL-HUM. DENSATY SPEED OF	SEL .HUM.	UENS 1TY	SPEED OF	WING DATA	TA SPEFU	INUEX
ALITIODE MSL FEET	MILLIDARS	DEGREES CENTIGRADE	ר האנהיאי ב	METCR	KNOTS	DEGREES (IN) KNOTS	KNOTS	HEFRACT 10N
N+000+8	22.7	-56.7		36.5	573.1			1.000008
84500.0	22.1	-56.1		35.	35.5 574.0			1.000008
0.000cb		-55.4		- + F	574.9			1.00000
85500.0		-54.7		33.	575.8			1000001

9E0DETIC COUNDINATES 32.4U175 LAT DEG 106.31232 LON DEG		212																									
v£0D£1 38 106	AINU DAIA	N SPELD N) KNOTS	4.1	8.7	14.0	10.7	22.7	23.5	21.2	25.8	25.7	41.4	6,69	75.1	66.7	3X0.4666	XX0.6666	4X0.6666	4X0.6666	4X0.6666	XX0.6666	XX0.6666	XX0.6666	XX0.6666	3999.0XX	XX0.6666	41.9
	טיין דיי	UINCCTION EUREES(TN)	331.4	301.0	291.5	287.1	274.1	275.1	296.5	268.5	293.5	269.0	270.6	275.2			0.666	0.6666				0.6666	0.6666	0.6666	0.6666	0•6666	265.0
. v. L S	KEL.HUM.	PERCENT	33.	30.	38.	17.	15.	15.	15.	10.	21.	7.7	73.	68•													
MANDATURY LLVLLS 346 ⁰¹⁸⁰²²⁷ LC-3 ⁷ TABLE 11	TEMPERATUME	DEWPOINT CENTIGRADE	6.5-	-4.2	7°9-	-10.1	-21.0	-24.8	-24.0	-33.6	-30.3	27.6	-35.0	6 · į b-													
Σ	TEMPE	AIR DEGREES C	13.0	10.1	6.7	6.4	1•0	-1.6	-7.1	-13.2	-19.4	-26.7	-29.8	-38.2	-47.8	-59.5	-65.2	-68.6	8.49-	9.89-	-65.0	-66.1	-71.0	-65.3	-63.3	-55.6	-57.5
r MSL	OPOTENTIAL	FEET	4989.	6651.	8400.	10254.	12223.	14329.	16578.	18987.	21589.	24423.	27577.	31124.	35159.	39866.	42571.	45617.	49236.	53064.	58089.	60757.	63787.	6734î.	71877.	77797.	815AN.
JL 4051.37 FEET 0900 MRS M <27	PRESSURE GEUPOTENTIAL	MILLIBAKS	R50.0	800.0	750.0	700.0	650.0	600·n	550•0	500.0	450.0	0.004	350∙0	300.0	250.0	500.0	175.0	150.0	125.0	100.0	0∙ეგ	70.n	0.09	90.0	0.04	30.0	25.0
STATION ALTITUDE 4051.37 FEET MSE 12 DEC. UI 0900 HRS MST ASCENSION NO. 227																											

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AX WIND DATA INVALID DHE TO MISSING RAW AZIMULH AND ELEVATION ANGLES.

9EODETIC COORDINATES 32.40043 LAT DES 106.37033 LOH DEG										
A ! A	REL.,IUM. PERCENT	53.0	41.0	39.0	31.0	31.0	50.0	31.0	20.0	14.0
STGHTFTCALT CLVCL DATA N462020756 WHITE SAHDS TABLE 12	TEMPERATURE AIR DEWFOINT DEGREES CENTIGRADE		11.4 -1.4						•	•
	GFOMETRIC ALTITUDE MSL FEET	3989•0				6615.9				4.7646
STATION ALTITUDE 3939.00 FFET MSE 12 DEC. 61 ASCENSION NO. 738	PRESSURE	88 0. 9	877.1	467.7	0.050	800.5	1-167	3.44.5	735.2	719.8

514110H ALTITUDE 12 DEC+ 81 ASCERSION HO+ 73	1 2	3989.00 FEET NSL LOOD HRS NST 18	J MSL MS [-	JPPER AIR DAIA 3460020736 WHITE SANDS TABLE 13	<u>∢</u>		GEODETIC 32.4 106.	%EODETIC COOMUTHATES 32.40043 LAT UEG 106.37033 LON UEG	
GEONETRIC ALTITUDE MSL FEET	PRESSURE HILLIBARS	TEMPE AIP DEGPLES O	PRESSURE TEMPERATURE AIP DEWPOINT MILLIDAKS DIGRES CENTIGRADE	EL. HUM. PERCENT	EL.HUM. DENSITY SPEED OF FRCENT GMZCURIC SOUND METER NHOIS	PEEU OF SOUND NWOIS	"IND DATA UIRLCTION SE DEGRECSON) N	1A SPEED KNOTS	INULX OF REFRACTION	
0.0000	6.088	9.61	, c	53.0	1045.5	067.4	.	÷.	1.000264	
0.0004	dyn y	7.57	, C.	51.9	1047.9		35705	• 1	1.000262	
0.004	Mea.7	· · · ·	-2-1	37.7	1054.5		35705	2.5	1.000259	
0.000	Haw.	12.1		31.0	1035.1		3.708	6.4	1.000251	
0.0044	X		0 · ℃ -	31.0	1018.4		35708	7.3	1.000247	
0.000°		11.0	7.05	31.0	1001.9		35705	9.7	1.000242	
6.0000		70.	0.9-	31.0	YA5.7		251.6	8.5	1.000238	
0.0007		10.2	9.51	30.0	968.B		4.062	6.5	1.000233	
0.0047		1.6	-7.4	30.3	954.6		765.5	12.9	1.000229	
0.0000	760.3	8•1	1.v-	30.6	7.046		243.3	16.5	1.000225	
A500.0	740.9	7.1	6.6-	30.9	927.0	652.7			1.000222	
0.0006	735.2	6 • B	-15.1	19.2	911.6				1.000212	

JEODETIC COORDINATES 32.40043 LAT DEG 106.37033 LON DEG				
∪EUDET1 32• 106•	4	SPEED KNO1S	L. 4.	n •
	WIND DAIA	AIK DEMPOIN FERCENT DIKECTION SPEED GREFS CENTIFRADE "EVELES(TN) KNOIS	357.2	9.126
.vt.LS So So	KEL. HUM.	PLRCENT	31.	31.
HANDATORY LEVILES 3460020730 WHITE SANDS TABLE 14	TEMPEKATURE	AIR DEWPOINT DEGREFS CENTIGRADE		ζ·η-
		AIK DEGREF9	12.1	7.3
IT MSL MST	PRESSURE GEUPOTENTIAL	FEET		8381.
STATION FLIITUDE 3989.00 FELT MSL 12 Dec. 81 1000 HRS MST ASCENSION NO. 738	PRESSUME 6	MILLIBARS	850·0	750.0
STALI 12 DE ASCLE				

vEODETIC COORDINATES 32.40175 LAT DEG 106.31232 LON DEG															
AIA	REL.HUM. PERCENT	42.0	38.0	0.04	34.0	17.0	18.0	16.0	17.0	29.0	55.0	71.0	75.0	75.0	0.07
SIGNIFICANT LEVCL DATA 346"180220 LC-37 TABLE 15	TEMPERATUKE AIR DEWPOINI DEGREES CENTIGAADE	1.0	9.7-	オ・オー	-7.0	-18.5	-20.0	-54.5	-25.7	-27.6	-2005	-20.1	-27.5	-31.5	-41.4
SIGNIFIC 34 LC- TABI	TEMPE AIR DEGREES	14.0	11.2	A • 4	7.0	9•4	1.7	-1.7	†• 1) –	-13.6	-21.6	-22.3	-24.1	-28.3	-38.0
4SL T	PRESSURE GFOMETR _I C ALTITUDE ILLIBAKS MSL FEET	4051.4	5016.6	7089.6	2.6406	10280.0	11829.8	14.744.8	15442.7	19017.5	21744.3	22536+2	24457.9	27233.2	31194.9
STATION ALTITUDE 4051.37 FEET MSL 12 DEC. 81 110n HRS MST ASLENSION NO. 228	PRESSURE	689.3	650.0	787.8	732.8	700.0	₩•099	600.2	575.4	0.003	9.744	433.2	0.004	356.0	300.0

DE TIL COONDINATES 32-40175 LAT DEG 106-31232 LON DEG	INCEX OF PEFFACTION	1.000208	1.000262	1.000255	1.000621	1.000243	1.000239	1.000234	1.000229	1.000224	1.000220	1.000013	1.000201	1.000198	1.000195	1.000191	1.000168	1.000185	1.000181	1.000178	1.000175	1.000172	1.000167	1.000165	1.000152	1.000160	1.000158	1.000155	1.000153	1.000151	1.000149	1.000147	1.000145	1.000143	1.000141	1.000138	1.000135	
vEODETIC 32.40 106.3	SPEED KNOTS	0.											22.7		20.6	20.7	20.9	20.8	20.6	20.4	202	20.0	19.3	19.8	20.3	20.6	20.9	21.2	21.3	21.6	22.4	23.1	0.4%	25.1	5000	0.00	37.1	
	AIND DATA DIRECTION S	0.											2/3.0	271.5	268.6	207.4	5-997	506.9	208.3	5•6a≥	2/1.6	4.0.7.2 2.4.7.2	2.6.7	2.275	5,00,7	2/1.4	5.0</td <td>2/3·0</td> <td>2/4.1</td> <td>1.4/7</td> <td>7/0•0</td> <td>7./,7</td> <td>201.c</td> <td>7.027</td> <td>200.00</td> <td>1000</td> <td>2.002 20005</td> <td>ı</td>	2/3·0	2/4.1	1.4/7	7/0•0	7./,7	201.c	7.027	200.00	1000	2.002 20005	ı
м1 л	SPEED OF SOUND	061.1	3.659	057.7	0.56.4			0.54.0	653.6	.53·1	1,250	0.100	2.000	6.240	8.949	645.8	0.540	2.440	043.4	042.0	041.6	040.1	637.1	635.6	634.0	632.5	030·9	659.4	U27.8	020.1	624-3	6559	020.1	018.9	61/0	2.10	010.1	• • • • • • • • • • • • • • • • • • • •
UPPER AIR UNIA 346018022 LC-37 TABLE 16	DENSITY S GM/CUBIC METER	1064.9	1052.8	1039.5	1007.0	991.1	475.5	959.1	942.9	926.9	2.11.	Ye del	071.4	858.1	845.0	831.8	618.1	8.408	791.6	78.7	400,4	755.2	733.5	722.5	711.9	, 01.4	7.169	t81.1	0/1.1	061.4	651.8	042.3	633.1	0.420	013.0	0.30°	579.7	
ر	KEL.HUM. PERCENT	42.0	40.1	38.1	00°00 48°0	39.4	39.9	38.7	57.2	35.7	2.00	0 0 0	17.1	17.5	17.8	17.9	17.5	17.1	16.7	16.3	16.1	10.0	18.9	20.5	25.5	23.9	25.6	27.3	28.9	33.6	38.4	43.1	47.9	52.1	55.7	0 0	73.0	:
T MSL MST	TEMPERATURE R DEWPOINT FFS CENTIGRADE	1.3	-•5	ທ ເ • ໄດ້• • • • • • • • • • • • • • • • • • • •	0 d	6.K	-4.3	-5.1	-5.9	8 1	\•\I	1.1.1	-13.5	-19.1	-19.7	-20.3	-21.1	-21.9	-22.8	-23.6	h•h2-	-25.1	-25.8	-25.9	-26.1	-26.5	-46.8	-27.3	-27.7	-27.4	-27.3	4-72-	-27.6	-28.n	5-72-	7•07-	126.7	
11.37 FEET MSL 10c HRS MST	TEMP AIR DEGREFS	14.0	12.7	11.2	0.0	9.5	8.5	8•1	7.7	* • •	0 - 7	1 - C	4.5	3.3	2•3	1.5	.8		9	-1.2	-2.1		5.5	-7-1	-8.4	-9.7	-11.0	_	-13.6	-15.0	-16.5	-17.9	19.4	6.02-	-21.6	7 2 2 7	-23.2	1
STATION ALTITUDE 405 12 DEC: 81 ASCENSION NO: 228	PRESSURE MTILL:ARS	H80.3	860.1	856.5	814.9	800.0	790.4	775.9	761.8	8./4/	7.00.7	70.07	69**2	681.3	9.099	656.1	642.8	631.7	612.8	608.1	3,060	585.5	6.790	552.0	241.2	530.7	520.4	510.3	5000	490.3	# · 08 #	8.07 P	461.3	456.1	ア・ソナナ さ さ さ さ さ さ さ さ さ さ さ さ さ さ さ さ さ さ		424.4	ı
STATION ALTIT 12 DEC. EL ASCENSION NO.	GEUMETRIC ALTITUDE MSI FFFI	4051.4	4500.0	0.0003	3.0000	0.0059	7000.0	0.0067	8000.0	0.0058	9000	0.00001	102001	11000.0	11500.0	12000.0	12500.0	13000.0	13500.0	14000.0	14500•0	1.5000-t	10000.0	10500.0	17000.0	17500.0	18000.0	10500.0	19000.0	19500.0	20000	20200.0	21000-0	21500.0	0.0000	0.0007	235000.0	,

AX WITH DATA INVALID DUE TO MISSING RAW AZIMOTH AND ELEV TIOM ANGLES.

VEODETIL COONDINATES 32.40175 LAT DEG 106.31232 LON DEG	INJEX OF REFRACTION	1.000131	1.000128	1.000126	1.000123	1.000121	1.000119	1.000117	1.000114	1.000112	1.000110	1.000108	1.000105	1.000104	1.000103	1.000101
0E0DET10 32.0 106.	1A SPEEU KNOTS	34.9	38.6	43.8	49.1	53.3	57.5	59.4	61.0	63.1	62.9	68.7				
	WIND DATAIRECTION 5	276.5	272.0	208.2	6.407	203.B	203.0	204°2	205.B	207.0	207.7	4.80Z				
hTA b JN'T	SPEEU OF SUUND KNOTS	615.5	614.9	614.0	613.0	612.1	611.1	610.2	6.800	007.4	605.8	604.3	602.7	601.2	9•669	298•1
UPPER AIR UATA 346 ^U 180226 LC-3/ TABLE 16 CON'T	DENS ¹ TY GM/C ^U BIC METER	568.9	558.3	ካ• ጸ ክር	538.7	529.1	519.7	510.5	501.8	493.6	485.5	477.6	4.69 P	462.1	454.6	447.2
_	REL.HUM. PERCENT	74.0	75.0	75.0	75.0	75.0	75.0	75.0	74.7	74.0	73.4	72.8	72.1	71.5	70.9	70.2
T MSL MST	TEMPERATURE AIR DEWPOINT DEGKES CENTIGRADE	-27.0	-27.3	-28.0	-28.8	-29.5	-30.2	-31.0	-32.0	-33•3	-34.6	-35.8	-37.1	-38.4	-39.6	6.04-
1.37 FEE 100 HRS	TEMP AIR Degkees	-23.7	-54.5	6.42-	-25.7	-26.4	-27.2	-27.9	-29.0	-30.2	-31.4	-32.6	-33.9	-35.1	-36+3	-37.5
STATION ALTITUDL 4051.37 FEET MSL 12 DEC. 81 1100 HRS MST ASCENSION NO. 228	PRESSURE ILLIBARS	407.7	399.3													
STATION AL 12 DEC+ 81 ASCENSION	GEOMETHIC ALTITUDE MSL FEET M	u•000ħ7	24500•0	0.00052	25500.0	20000-0	26500-0	27000.0	27500.0	2800n.0	28500.0	29000•0	2-00967	30000.0	30500.0	31000.0

MANDATURY LEVELS	346"16022a	LC-3/	TABLE 17
	STATION ALTITUDE 4051.37 FEET MSL	12 DEC. 01 1100 HRS MST	ASCENSION NO. 228

A CONTRACTOR OF THE PROPERTY O

GEODETIC COORDINATES 32.40175 LAT DEG 106.31232 LON DEG

PRESSURE 6	PRESSURE GEUPOTENTIAL	TEMP	TEMPEKATUKE	KEL . HUM.	ZIIB	D DATA	
MILLIBAKS	FEET	AIR DEGREES	AIR DEWPUINT DEGREES CENTIGRADE	PERCENT	DIRECTION SPE EGREES(IN) KNO	ON SPEED TN) KNOTS	
850.0	5013.	11.2	-2.6	38•	0.6666	9999.0XX	
0.008	6667.	0.6	0.4-	+0+	0.6666	XX0.4666	
750.0	8415.	7.4	-6.7	36.	0.6666	9999.0XX	
1000	10270.	4.6	-16.3	17.	0.6666	XX0.4666	
650.0	12236.	1.1	-20.7	18•	266.8	20.8	
0.009	14337.	-1.7	-54.5	10.	271.2	20.2	
550.0	16584.	-7.4	6-42-	21.	271.9	19.9	
200∙0	18991.	-13.6	-27.8	29.	274.1	21.3	
450.0	21581.	-21.2	-28.1	54.	286.0	25.3	
0.004	24417.	-24.1	-2/-5	75.	273.2	38.0	
350.0	27584.	-29.3	-32.3	75.	266.2	61.3	
400.0	31133	-38.0	4.14	70.	ı		

XX WIND DATA INVALID DUE TO MISSING RAW AZIMUTH AND ELEVITION ANGLES.